

OPERATING-ROOM PROCEDURES

COMPILED BY KATHARINE DEWITT

PREPARATION OF SUPPLIES, ETC.

A PAMPHLET written by Dr. A. J. Ochsner, of Chicago, on Requirements for Aseptic Surgical Operating, gives some suggestions which nurses not directly in touch with modern surgical methods may be glad to see in a modified form as an introduction to the question of supplies.

When training-schools were first established, the operating-room was a field for practice, through which the doctors and nurses moved with the same regularity with which they went through the wards. The interne and head nurse might each be on duty there for three or four months, when they were changed, as in other parts of the hospital. The results under this system were not as good as those obtained where the operating-room force is more permanent in character. In most of the hospitals to-day, the surgeon's chief assistant occupies his position for a much longer period of time. The chief surgical nurse is almost always a graduate, and her position is permanent. The pupil nurses work under her and assist her, but she alone touches anything which comes in direct contact with the wound. Rubber gloves and dressing-forceps are used very largely, and as these can be made more thoroughly clean than the hands of a human being, the dangers from infection are by so much lessened. Dressings, towels, sponges, sheets, etc., are sterilized in cases which are not opened until the contents are needed. Those who stand directly over a patient during an operation are careful not to breathe or speak into the wound. Wherever it is possible, the work is so systematized that clean cases come first, and suppurative ones afterward, whether for operation or dressing. A surgeon now rarely spends a morning in dressing miscellaneous wounds, turning to operations in the afternoon. In all contact with pus, the rule to be observed is not to let it touch the hands. It is better to avoid contact with it than to do ever so much scrubbing afterward. Dressing-forceps and rubber gloves are a great help here.

A number of representative hospitals have been asked to give the JOURNAL the methods used by them for the preparation of surgical supplies. Some have not responded, but many have been most generous, giving even more than was asked, so that we have full lists to present. Where methods are identical or similar we shall not give all in detail.

Let us begin with the preparation of the patient.

Disinfection of the Patient.—1. Augustana Hospital, Chicago. He receives a full warm soap and water tub-bath on the day before the operation. For the disinfection of his alimentary canal he receives two ounces of castor oil in the foam of beer directly before taking his bath, and a large warm-water enema on the morning of the operation, except in case of operations upon the rectum. In these cases the enema is given on the evening before the operation.

On the evening before the operation the skin over the seat of operation is thoroughly scrubbed with green soap and warm water, then shaved, then scrubbed with strong alcohol, then a moist dressing of gauze saturated with a 3 per cent. carbolic acid solution is placed over the field of operation; over this a large covering of absorbent cotton held in place with a gauze bandage completes the dressing. Just before the operation this dressing is removed and the surface again scrubbed with strong alcohol.

2. Montreal General Hospital. The night before the operation, the patient is shaved, a green soap poultice is applied for twenty minutes, and is then washed off. Formaline towels are applied every four hours. In the surgical operating-room, the patient is again scrubbed with green soap and water, sterile water poured over, and washed off with ether and sublimated alcohol, 1-2000.

3. Syms Operating-Room, Roosevelt Hospital. The bichloride dressing is removed by a nurse. The area is first washed with green soap (made by taking one tablespoonful green soap jelly to one quart water and boiling it), using a small sterile towel to scrub with. The soap is rinsed off with sterile salt solution, then a gauze sponge, wet with 1-1000 bichloride with alcohol, is used to wipe over the area of operation, and, lastly, 1-1000 bichloride is poured over.

Preparation of the Operator and Assistants.—1. Montreal General.

I. Remove all rings. II. Thoroughly wash the hands and arms (including elbows) with warm water and sterile nail-brush and soap for five minutes, paying particular attention to cleaning finger-nails. III. Pass hands and arms through mercuric bichloride solution, 1-2000. IV. Sponge hands and arms thoroughly with alcoholic bichloride, 1-2000. V. Avoid touching any object which is not absolutely sterile.

2. Augustana, Chicago. At the present time we wash our hands in an ordinary deep porcelain basinful of warm water, using green soap, with a moderately stiff brush; then we carefully cleanse the finger-nails with the point of a dull scalpel; then we scrub them once more with a brush, and then with a piece of sterilized gauze in the deep basin,

because the gauze seems to rub off all the loose epithelium more perfectly than a brush; then we wash off the soap under the faucet in a stream of warm, boiled water; then we wash in 1-2000 corrosive sublimate solution for a few moments, and then with strong commercial alcohol.

3. Royal Victoria Hospital. Scrub thoroughly with stiff brush, green soap, and warm running water for five minutes. Immerse in potassium permanganate till of a deep mahogany color. Decolorize in sulphurous acid, 25 per cent. Soak in perchloride, 1-1000, from three to five minutes, sufficiently to remove all acid.

4. Syms Operating-Room. Scrub for five minutes with green soap and hot running water. Rinse off in hot running water. Make a paste of lime and soda, rub over hands and arms. Rinse in sterile water. Immerse in 1-1000 bichloride two minutes.

Preparation of Instruments.—1. Syms Operating-Room. Boil in 1 per cent. soda carbonate solution for twenty minutes. Knives are soaked for fifteen minutes in 1-25 carbolic solution, or three minutes in 95 per cent. alcohol.

2. Lying-in Hospital, Chicago. After scrubbing, the instruments are rinsed in a hot 1 per cent. lysol solution, and dried. Stains are removed with sapolio on a moist cloth.

3. Royal Victoria. Wash thoroughly with cold water. Boil for five minutes in a 1 per cent. solution of sodium carbonate. Then scrub with a stiff brush, ammonia, and sapolio. Take all instruments apart and be careful not to wrench them in putting together again. Scrub all forceps transversely and dry from hot water to prevent rusting.

4. Augustana. All instruments, except knives, are boiled for a half-hour in a solution of a tablespoon of baking soda to a quart of water before they are put away for operating, and again before they are used. The knives are washed carefully with water and then rubbed with pads of sterilized cotton, saturated with alcohol, before and after using.

5. Presbyterian, Chicago. Scissors are boiled but five minutes in the soda solution. Scalpels are left in 95 per cent. carbolic, sixty seconds.

Preparation of Silks.—1. Augustana. Boil in water one hour, and preserve in 5 per cent. carbolic in water or in strong commercial alcohol until used.

2. Cook County Hospital, Chicago. Silk and linen thread are sterilized with the gauze. Wind on glass slides, wrap in oiled paper, place in an envelope, and put in the sterilizer.

3. Johns Hopkins Hospital. Silk to be cut in lengths 40 cm.

Six strands to be wound on glass reels, placed in tube, and sterilized for half an hour, once only, one reel in each tube.

4. Lakeside Hospital, Cleveland. Silk is bought from local supply-house, is wound on glass reels, and put in glass tubes, with a layer of non-absorbent cotton between each reel and the non-absorbent cotton stopper. Sterilize in the autoclave half an hour. Linen thread is being used as much as the silk, and it is put up and sterilized in the same way.

5. Lying-in Hospital. Wash in hot water with tinct. green soap. Boil in 1 per cent. lysol solution thirty minutes. Rinse thoroughly in sterile water just before use.

6. Syms Operating-Room. Wind on small glass reels, place in tubes cotton plugged, sterilize one-half hour at twelve pounds pressure on two days.

To be continued.

NOTES ON THE TREATMENT OF PULMONARY TUBERCULOSIS*

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THE present aim in the treatment of pulmonary tuberculosis is to raise the defensive powers of the body, until we obtain a serum that shall have sufficient antitoxic and bactericidal powers to artificially increase those defenses. How shall we raise the natural defenses in the body? We cannot do it by iron or digitalis, nor by the use of oils and malts or hypophosphites. Of what particular value are these or any other medicinal measures in the treatment of pulmonary tuberculosis? Do they increase the body defenses? Have they any effect upon the dense envelope of the biologically active tubercle bacillus or upon its products? Can it be said that in any way they raise the natural defenses of the body as we now understand them? The most ghost-like faces of patients affected by pulmonary tuberculosis look out from dusty occupations in grimy work-shops; from the rooms of high-priced tenements they cry out for relief. Do these people take drugs when they need air, malt and oils when they can hardly afford to buy butter? Are they directed to exercise when they should have rest? What is there

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